

IN THE CLAIMS

1-20. Cancelled

21.(currently amended) An electronic control including sensing means to
5 scan ~~at least one one or more~~ energizing circuits of a device, said energizing
circuits containing one or more transducers, said energizing circuits including
switches, said energizing circuits carrying the current of said transducers,

said transducers having the potential to cause said device to operate in a
hazardous manner if said transducers are mistakenly energized,

10 said transducers never causing said device to operate in a hazardous
manner when said transducers are in an unenergized state,

the intended states of said switches are known to said control whether said
intended states are set by said control or an override in said device,

said control;

15 -identifying any of said switches as functional that said sensing means
verifies are in said intended states,

identifying any of said switches as non-functional that said sensing means
verifies are not in said intended states,

preventing any of said switches identified as non-functional from causing
20 said transducers to be mistakenly energized by opening one or more of said
switches identified as functional.

22.(previously presented) The control in accordance with claim 21 in
which at least one of said transducers is a solenoid actuating a valve, said
hazardous manner being flooding.

25 23.(previously presented) The control in accordance with claim 21 in
which at least one of said transducers is a heating element, said hazardous
manner being overheating.

24.(previously presented) The control in accordance with claim 21 in
which at least one of said transducers is a motor, said hazardous manner being
30 physical injury to the operator of said device.

25.(currently amended) An electronic control including sensing means to
scan ~~at least one one or more~~ energizing circuits of a device, said energizing
circuits containing one or more transducers, said energizing circuits including
switches, said energizing circuits carrying transducer current,

35 said transducers having the potential to cause said device to operate in a
hazardous manner if said transducers are mistakenly energized,

said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

5 said control;

-identifying any of said switches as functional that said sensing means verifies are open when said intended state is open,

identifying any of said switches as erroneously closed that said sensing means verifies are not open when said intended state is open,

10 preventing any of said switches identified as erroneously closed from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

26.(previously presented) The control in accordance with claim 25 wherein at least one of said switches can be independently opened by either said control or an override.

27.(previously presented) The control in accordance with claim 26 wherein said control signals the operator it has identified one or more of said switches as erroneously closed.

28.(currently amended) The control in accordance with claim 25 wherein said control continues to operate said transducers in said energizing circuits of said switch identified as erroneously closed.

29.(currently amended) The control in accordance with claim 28 wherein said control signals the operator it has identified one or more of said switches as erroneously closed.

30.(currently amended) The control in accordance with claim 25 wherein at least one sensor of said sensing means scans said switches in a plurality of ~~circuits~~ of said energizing circuits.

31.(currently amended) The control in accordance with claim 25 wherein said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means.

32.(currently amended) An electronic control including sensing means to scan the output circuitry of a device, said output circuitry including ~~at least one~~ one or more energizing circuits, said energizing circuits containing one or more transducers, said energizing circuits including switches, said energizing circuits carrying transducer current,

said transducers having the potential to cause said device to operate in a hazardous manner if said transducers are mistakenly energized,

said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

at least one of said switches being a monitored switch,

said control;

-using said sensing means to ascertain the frequency said monitored switch changes state,

prolonging the period ~~said energizing circuit~~ at least one of said transducers, switched by ~~of said monitored switch, is open~~ unenergized if said frequency exceeds the rate at which said monitored switch can safely operate said transducers.

33.(currently amended) The control in accordance with claim 32 wherein said sensing means scans said energizing circuits.

34.(currently amended) The control in accordance with claim 33 wherein the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

said control;

-identifying any of said switches as functional that said sensing means verifies are in said intended state,

identifying any of said switches as non-functional that said sensing means verifies are not in said intended state,

preventing any of said switches identified as non-functional from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

35.(currently amended) The control in accordance with claim 34 wherein said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means.

36.(currently amended) The control in accordance with claim 34 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuits.

37.(currently amended) The control in accordance with claim 33 wherein the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

said control identifying any of said switches as functional that said sensing means verifies are open when said intended state is open,

said control identifying any of said switches as erroneously closed that said sensing means verifies are not open ~~in~~when-said intended state is open,

preventing any of said switches identified as erroneously closed from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

38.(previously presented) The control in accordance with claim 37 wherein at least one of said switches can be independently opened by either said control or an override.

39.(previously presented) The control in accordance with claim 37 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuits.

40.(currently amended) The control in accordance with claim 37 wherein said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means.

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21.(currently amended) An electronic control including sensing means to scan one or more energizing circuits of a device, said energizing circuits
5 containing one or more transducers, said energizing circuits including switches, said energizing circuits carrying the current of said transducers,

said transducers having the potential to cause said device to operate in a hazardous manner if said transducers are mistakenly energized,

10 said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

said control;

15 identifying any of said switches as functional that said sensing means verifies are in said intended states,

identifying any of said switches as non-functional that said sensing means verifies are not in said intended states,

20 preventing any of said switches identified as non-functional from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

22.(previously presented) The control in accordance with claim 21 in which at least one of said transducers is a solenoid actuating a valve, said hazardous manner being flooding.

25 23.(previously presented) The control in accordance with claim 21 in which at least one of said transducers is a heating element, said hazardous manner being overheating.

24.(previously presented) The control in accordance with claim 21 in which at least one of said transducers is a motor, said hazardous manner being physical injury to the operator of said device.

30 25.(currently amended) An electronic control including sensing means to scan one or more energizing circuits of a device, said energizing circuits containing one or more transducers, said energizing circuits including switches, said energizing circuits carrying transducer current,

35 said transducers having the potential to cause said device to operate in a hazardous manner if said transducers are mistakenly energized,

said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

5 said control;

identifying any of said switches as functional that said sensing means verifies are open when said intended state is open,

identifying any of said switches as erroneously closed that said sensing means verifies are not open when said intended state is open,

10 preventing any of said switches identified as erroneously closed from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

26.(previously presented) The control in accordance with claim 25 wherein at least one of said switches can be independently opened by either said control or an override.

27.(previously presented) The control in accordance with claim 26 wherein said control signals the operator it has identified one or more of said switches as erroneously closed.

28.(currently amended) The control in accordance with claim 25 wherein said control continues to operate said transducers in said energizing circuits of said switch identified as erroneously closed.

29.(currently amended) The control in accordance with claim 28 wherein said control signals the operator it has identified one or more of said switches as erroneously closed.

30.(currently amended) The control in accordance with claim 25 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuits.

31.(currently amended) The control in accordance with claim 25 wherein said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means.

32.(currently amended) An electronic control including sensing means to scan the output circuitry of a device, said output circuitry including one or more energizing circuits, said energizing circuits containing one or more transducers, said energizing circuits including switches, said energizing circuits carrying transducer current,

said transducers having the potential to cause said device to operate in a hazardous manner if said transducers are mistakenly energized,

said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

5 at least one of said switches being a monitored switch,
said control;

using said sensing means to ascertain the frequency said monitored switch changes state,

10 prolonging the period at least one of said transducers, switched by said monitored switch, is unenergized if said frequency exceeds the rate at which said monitored switch can safely operate.

33.(currently amended) The control in accordance with claim 32 wherein said sensing means scans said energizing circuits.

15 34.(currently amended) The control in accordance with claim 33 wherein the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,
said control;

identifying any of said switches as functional that said sensing means verifies are in said intended state,

20 identifying any of said switches as non-functional that said sensing means verifies are not in said intended state,

preventing any of said switches identified as non-functional from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

25 35.(currently amended) The control in accordance with claim 34 wherein said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means.

30 36.(currently amended) The control in accordance with claim 34 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuits.

37.(currently amended) The control in accordance with claim 33 wherein the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

said control identifying any of said switches as functional that said sensing means verifies are open when said intended state is open,

said control identifying any of said switches as erroneously closed that said sensing means verifies are not open when said intended state is open,

5 preventing any of said switches identified as erroneously closed from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

10 38.(previously presented) The control in accordance with claim 37 wherein at least one of said switches can be independently opened by either said control or an override.

39.(previously presented) The control in accordance with claim 37 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuits.

15 40.(currently amended) The control in accordance with claim 37 wherein said sensing means also determines the state of at least one externally operated switch in said energizing circuits whose intended state is unknown to said control via any other means.